Job Loss Analysis

ID No: 2000067 **Status:** Closed **Original Date:** 3/10/2010
Last Review Date:

Organization:

SBU: GMfg
BU: Pascagoula Refinery
Work Type: Technical Process Engineering
Title (Work Activity): Using Vaetrix Digital Pressure Gauges
Site/Region:

Personal Protective Equipment (PPE)	Selected	Comments
Safety Shoes	Y	
Hard Hat	Y	
Safety Glasses	Y	
Fire Resistant Clothing	Y	bib overall & jacket
Face Shields	Y	
Hearing Protection	Y	
Goggles		
Gloves	Y	Nitrile, rubber, leather
Other	Y	CPF3
Safety Cones/Barricades		
Tag-out/Lock-out Equipment		
Proper PPE per your Refinery Guidelines	Y	
Personal Gas Monitor	Y	

Reviewers

Reviewers Name	Position	Date Approved
Anshu Anshumali	Process Engineering Team Lead	3/10/2010
Liem Do	Process Engineering Team Lead	3/10/2010

Development Team

Development Team Member Name	Primary Contact	Position
James Mansingh	Y	Process Engineering – Shared Services
Brad Moore		Lead PE – Cracking1 Area
Richard Grubb		Lead PE – Cracking2 & Crude1/Aromax Area

Job Steps

No	Job Steps	Potential Hazard	Critical Actions
1	Prepare for pressure survey	1. Loss of time.	1. Refer to JLA Control#1339521
2	Check all parts are accounted for.	1. Bad data, skewing results leading to economic loss.	1. Check all parts are accounted for. Make up assembly should include a Vaetrix Digital Pressure Gauge (VDPG), plug and probe. Not including these parts during assembly deviates from the manufacturer design and could result in inaccurate data collected. Refer to VDPG guidelines, located in the carrying case, for part description and pre-work activities.
3	Check ratings of VDPG, plug and probe.	1. Personnel injury or equipment damage from using improperly rated equipment.	1. Verify process temperature and pressure conditions are within specifications of the VDPG. Per operating instructions: Operating temperature (ambient): 32°F to 122°F. Storage temperature: -40°F to 176°F. Process temperature (for short duration readings) is 300° F (max). Plugs and probes are rated for 5,000 psig. Refer to VDPG guidelines for more details on temperature and pressure ratings.

4	Ensure additional PPE is adequate to address concerns from the slip on plug/probe method used.	1. Personnel injury due to exposure of process fluid.	The "slip on & slip off" method of the plug and probe allows some process fluid (minimal that builds up inside the probe) to release at process pressure when slipping off the probe from the plug. The following PPE is to protect the operator while removing the VDPG after the pressure reading has been taken. If the process fluid contains benzene, alternative pressure reading methods should be reviewed. 1A. Use a face shield in conjunction with standard PPE to protect from overspray if the operator will be in the line of fire of the overspray. 1B. Refer to RI-827 to select appropriate gloves. 1C. In deciding if a bib overalls & jacket or coat is required, consider the following. The quantity of fluid release is considered minimal. Recognize the line of fire and stay in safe zones. If benzene or other hazardous chemical is in the process, careful consideration should be given to using a CPF3 per RI-812.
5	Zero VDPG.	1. Skewed data from improper setup and use of VDPG.	1A. Zero VDPG (before connecting to process piping) via the fine zero adjust knob on the bottom of the VDPG. 1B. Nothing, other than the probe and threaded connector, should be connected to the VDPG while zeroing. This will ensure the VDPG is at atmospheric conditions while being zeroed. Zeroing the VDPG as a closed system, at a different pressure than atmospheric, will result in misleading readings from the VDPG.

6	Necessary checks before and while using VDPG.	1. Personnel injury, equipment damage or skewed data from improper setup and use of VDPG.	1A. Review safe practices (line of fire/hand placement/positive isolation confirmed, etc...) for collecting reading in high/low pressure/temperature locations. 1B. The probe is designed to handle 1000 psi of pressure for every 6 lbs of applied force. Example: For a non-screw on type plug and probe assembly, connecting to a 3000 psig system would require the Operator to exert 18 lbs of force to hold the VDPG/probe assembly on the plug. 1C. Probe should stay connected to VDPG. Refer to VDPG guidelines for thread wearing concerns. 1D. Keeping the plug connected to the process piping after use saves a considerable amount of time when conducting pressure surveys, eliminating the time it takes to attach threaded connections to the process piping. 1E. Put an end cap on the plug after use to protect mechanism and seals in the plug.
7	Report out of results from survey and post in GDW.	1. Results from current survey improperly documented and archived leading to incomplete historical data for future analysis.	1. Reference Control #1339521